error
The difference between an estimate and a corresponding observation. In most practical cases, there is no known perfect model for describing a series of observations, which is why there is some inherent “noise” in each sample, which is called the “irreducible error”. No matter how well a model fits the given data, there will always be some variance due to the irreducible error. The “reducible error” is the difference between the total error and the irreducible error. The process of statistical modeling attempts to minimize the reducible error.

Methods for measuring the error of an estimate include, among others, the standard error of the estimate, the mean squared error (MSE), and the residual sum of squares (RSS). See model for a visualization. See type I error and type II error for other uses.